# 110707 Marbles

I collect marbles (colorful small glass balls) and want to buy boxes to store them. The boxes come in two types:

*Type* 1**:** each such box costs $c_1$ dollars and can hold exactly $n_1$ marbles

*Type* 2**:** each such box costs $c_2$ dollars and can hold exactly $n_2$ marbles

I want each box to be filled to its capacity, and also to minimize the total cost of buying them. Help me find the best way to distribute my marbles among the boxes.

## Input

The input file may contain multiple test cases. Each test case begins with a line containing the integer $n$ ($1 \leq n \leq$ 2,000,000,000). The second line contains $c_1$ and $n_1$, and the third line contains $c_2$ and $n_2$. Here, $c_1$, $c_2$, $n_1$, and $n_2$ are all positive integers having values smaller than 2,000,000,000.

A test case containing a zero for the number of marbles terminates the input.

## Output

For each test case in the input print a line containing the minimum cost solution (two nonnegative integers $m_1$ and $m_2$, where $m_i$ = number of type $i$ boxes required if one exists. Otherwise print "`failed`".

If a solution exists, you may assume that it is unique.

## Sample Input

```
43
1 3
2 4
40
5 9
5 12
0
```

## Sample Output

```
13 1
failed
```

 